



Arch Chemicals, Inc.

MATERIAL  
SAFETY DATA

FOR ANY EMERGENCY, CALL 24 HOURS/7 DAYS:	1-800-654-6911
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300
FOR ALL MSDS QUESTIONS & REQUESTS, CALL MSDS CONTROL:	1-800-511-MSDS

**PRODUCT NAME: HTH® PH MINUS ADJUSTER**

**SECTION 1 PRODUCT AND COMPANY IDENTIFICATION**

REVISION DATE: 12-03-2001 SUPERCEDES: 11-29-2001  
MSDS NO: 00015-0022 - 61302

MANUFACTURER: Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204

SECTION 1 PRODUCT IDENTIFICATION

SYNONYMS: pH Minus Adjuster, Nitre cake, Dry acid  
CHEMICAL FAMILY: Sulfate  
FORMULA:  $\text{NaHSO}_4$   
DESCRIPTION: pH and alkalinity adjuster for pool and spa water.  
OSHA HAZARD CLASSIFICATION: Corrosive, skin and eye hazard, lung toxin

SECTION 2 COMPONENT DATA

PRODUCT COMPOSITION

CAS or CHEMICAL NAME: Sodium bisulfate  
CAS NUMBER: 7681-38-1  
PERCENTAGE RANGE: 90-95%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: Sodium sulfate  
CAS NUMBER: 7757-82-6  
PERCENTAGE RANGE: 1-5%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: Water  
CAS NUMBER: 7732-18-5  
PERCENTAGE RANGE: 1-5%  
HAZARDOUS PER 29 CFR 1910.1200: No  
EXPOSURE STANDARDS: None Established

SECTION 3 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

DO NOT TAKE INTERNALLY. AVOID CONTACT WITH SKIN, EYES OR CLOTHING. UPON  
CONTACT WITH SKIN OR EYES, WASH OFF WITH WATER. AVOID BREATHING DUST.  
STORAGE CONDITIONS: Store in a cool, dry area. Keep away from moisture.

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HTH® PH MINUS ADJUSTER

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DO NOT STORE AT TEMPERATURES ABOVE: 175 Deg.C (347 Deg.F)

OTHER: Keep away from high humidity and high heat.

PRODUCT STABILITY AND COMPATIBILITY

SHELF LIFE LIMITATIONS: Unlimited if stored as recommended

INCOMPATIBLE MATERIALS FOR PACKAGING: No Data

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: Alkaline materials

SECTION 4 PHYSICAL DATA

APPEARANCE: Off-white to yellow granular beads

MELTING POINT: 176 Deg.C (350 Deg.F)

BOILING POINT: Decomposes

DECOMPOSITION TEMPERATURE: 315 Deg.C (570 Deg.F)

SPECIFIC GRAVITY: 2.74

DENSITY: 2.435 @ 13 Deg.C

pH: 1.4 (0.1 M solution)

VAPOR PRESSURE @ 25 DEG.C: Not Applicable

SOLUBILITY IN WATER: Approximately 33%

VOLATILES, PERCENT BY VOLUME: Not Applicable

EVAPORATION RATE: Not Applicable

VAPOR DENSITY: Not Applicable

MOLECULAR WEIGHT: 120.06

ODOR: None

COEFFICIENT OF OIL/WATER DISTRIBUTION: Not Applicable

SECTION 5 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:

RESPIRATORY PROTECTION: Wear a NIOSH approved high efficiency particulate (HEPA) filter respirator if dusts are created.

VENTILATION: Use local exhaust ventilation if dusting occurs in an industrial use setting. Otherwise, ensure good general room ventilation.

SKIN AND EYE PROTECTIVE EQUIPMENT: Wear gloves and chemical goggles to avoid skin and eye contact. Where industrial use occurs, face shield or full impermeable suit may also be required.

EQUIPMENT SPECIFICATIONS:

RESPIRATOR TYPE: NIOSH approved high efficiency particulate (HEPA) filter respirator

PROTECTIVE CLOTHING TYPE (This includes: gloves, boots, apron, protective suit): Neoprene

SECTION 6 FIRE AND EXPLOSION HAZARD INFORMATION

FLAMMABILITY DATA:

FLAMMABLE: No

COMBUSTIBLE: No

PYROPHORIC: No

FLASH POINT: Not Applicable

AUTOIGNITION TEMPERATURE: Not Applicable

FLAMMABLE LIMITS AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE (PERCENT VOLUME IN AIR): LEL - Not Applicable UEL - Not Applicable

NFPA RATINGS: Not Established

HMIS RATINGS:  
Health: 3  
Flammability: 0  
Reactivity: 1

EXTINGUISHING MEDIA: Not Applicable

FIRE FIGHTING TECHNIQUES AND COMMENTS: Use water to cool containers exposed to fire. May use other extinguishing agents suitable for surrounding materials.

#### SECTION 7 REACTIVITY INFORMATION

CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE:

TEMPERATURES ABOVE: 315 Deg.C (570 Deg.F)  
MECHANICAL SHOCK OR IMPACT: No  
ELECTRICAL (STATIC) DISCHARGE: No  
HAZARDOUS POLYMERIZATION: Will not occur  
INCOMPATIBLE MATERIALS: Acids, alkalis, oxidizers  
HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur dioxide, sulfur trioxide, hydrogen sulfide, sodium oxide (if heated over 570 Deg.F)  
OTHER CONDITIONS TO AVOID: High humidity, high heat

SUMMARY OF REACTIVITY:

OXIDIZER: No  
PYROPHORIC: No  
ORGANIC PEROXIDE: No  
WATER REACTIVE: No  
OTHER: Will react in water to form a weak solution of sulfuric acid.

#### SECTION 8 FIRST AID

EYES: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.

SKIN: Immediately flush with water for 15 minutes. Wash the contaminated skin with soap and water. If irritation develops, call a physician. If clothing comes in contact with the product, the clothing should be laundered before re-use.

INGESTION: Immediately drink large quantities of water. DO NOT induce vomiting. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

INHALATION: If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Call a physician. In the event that an individual inhales enough product to lose consciousness, person should be moved to fresh air at once and a physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

## SECTION 9 TOXICOLOGY AND HEALTH INFORMATION

### ROUTES OF ABSORPTION

Inhalation, skin and eye contact, ingestion

### WARNING STATEMENTS AND WARNING PROPERTIES

DO NOT TAKE INTERNALLY. MAY BE HARMFUL IF SWALLOWED. CAUSES SKIN, EYE, RESPIRATORY TRACT AND DIGESTIVE TRACT BURNS.

### HUMAN THRESHOLD RESPONSE DATA

ODOR THRESHOLD: No Data

IRRITATION THRESHOLD: No Data

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH:

No IDLH concentration has been established for this product.

### SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE

#### INHALATION

##### ACUTE:

Inhalation of this material is irritating to the nose, mouth, throat and lungs. It may also cause burns to the respiratory tract which can result in symptoms which may include: coughing; shortness of breath, wheezing, choking, chest pain, and impairment of lung function.

Inhalation of high concentrations can result in permanent lung damage.

##### CHRONIC:

Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.

#### EYE

Severe irritation and/or burns can occur following eye exposure.

Contact may cause impairment of vision and corneal damage.

#### SKIN

##### ACUTE:

Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling and scab formation. Prolonged skin exposure may cause permanent damage.

##### CHRONIC:

Repeated dermal exposure may cause tissue destruction due to the corrosive nature of the product.

#### INGESTION

##### ACUTE:

Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration. Ingestion may cause severe damage to the gastrointestinal tract with the potential to cause perforation.

##### CHRONIC:

There are no known or reported effects from chronic exposure. Chronic ingestion of significant amounts of this product is unlikely because of its acute corrosive action.

### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Asthma and other respiratory diseases; skin disorders

#### INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY

None known or reported.

#### ANIMAL TOXICOLOGY

##### ACUTE TOXICITY:

INHALATION LC50: No data

DERMAL LD50: > 2 g/kg (rabbit)

ORAL LD50: Believed to be approximately 2 g/kg (rat) based on similar structured products.

IRRITATION: Causes burns to eyes and skin

##### ACUTE TARGET ORGAN TOXICITY:

This product is expected to be severely irritating or corrosive to all tissues contacted.

##### CHRONIC TOXICITY:

Effects would be similar to those experienced from acute exposure and may include effects secondary to tissue destruction.

##### REPRODUCTIVE TOXICITY:

There are no known or reported effects on reproductive function or fetal development.

##### CARCINOGENICITY:

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

##### MUTAGENICITY:

This product is not known or reported to be mutagenic.

##### AQUATIC TOXICITY:

###### Sodium Bisulfate:

For immobilization of *Daphnia magna*, the threshold concentration of sodium bisulfate in Lake Erie water was found to be less than 145 mg/l. It has been shown that the threshold toxicity value is dependent on dissolved oxygen. For *Daphnia* exposed 100 hours at 23 degrees C, the threshold concentrations were as follows:

Dissolved Oxygen, mg/l	Threshold Level of Toxicity, mg/l
6.5	153
8.9	145
1.55	106

#### SECTION 10 TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

#### SECTION 11 SPILL AND LEAKAGE PROCEDURES

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC AT 800-424-9300.

REPORTABLE QUANTITY: Not Applicable (Per 40 CFR 302.4)

##### SPILL MITIGATION PROCEDURES:

Hazardous concentrations in air may be found in local spill area.

THIS PRODUCT BECOMES A CORROSIVE IRRITANT UPON CONTACT WITH SMALL AMOUNTS

OF MOISTURE SUCH AS PRESENT ON YOUR SKIN OR EYES. IF THIS PRODUCT IS HEATED TO DECOMPOSITION, THE PRODUCTION OF SULFUR DIOXIDES AND SODIUM OXIDE WILL OCCUR.

AIR RELEASE: Vapors may be suppressed by the use of a water fog.

WATER RELEASE: This material is heavier than and is soluble in water.

LAND SPILL: SPILL MATERIALS MUST BE CLEANED UP AS SOON AS POSSIBLE AND PLACED IN A SEPARATE CLEAN, DRY CONTAINER.

SPILL RESIDUES:

Dispose of per guidelines under Section XII, WASTE DISPOSAL.

This material may be neutralized for disposal; you are requested to contact 800-6546-911 before beginning any such operation.

PERSONAL PROTECTION FOR EMERGENCY SPILL AND FIRE-FIGHTING SITUATIONS: Response to this material requires the use of a full encapsulated suit and a NIOSH approved positive pressure supplied air respirator.

SECTION 12 WASTE DISPOSAL

If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

As a non-hazardous solid waste, it must be disposed of in accordance with local, state and federal regulations.

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

SECTION 13 ADDITIONAL REGULATORY STATUS INFORMATION

TOXIC SUBSTANCES CONTROL ACT:

This substance is listed on the Toxic Substances Control Act inventory.

SUPERFUND AMENDMENT AND REAUTHORIZATION ACT TITLE 3:

HAZARD CATEGORIES, PER 40 CFR 370.2:

HEALTH:

Immediate (Acute)

PHYSICAL:

None

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APP.A:

EXTREMELY HAZARDOUS SUBSTANCE - THRESHOLD PLANNING QUANTITY:

None Established

SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45:

None Established

SECTION 14 ADDITIONAL INFORMATION

MSDS REVISION STATUS: Section 12 revised

#### SECTION 15 MAJOR REFERENCES

Reference are available upon request

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT.

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